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EXAMINER	
LEE, HWA S	
ART UNIT	**PAPER NUMBER**
2877	

DATE MAILED: 12/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO 90C (Rev 10/03)

Office Action Summary	Application No.	Applicant(s)
	10/025,595	DE GROOT, PETER J.
	Examiner	Art Unit
	Andrew H. Lee	2877

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-57* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,12-22,24-27,29-36,40-51 and 53-57* is/are rejected.

7)☐ Claim(s) *9-11,23,28,37-39 and 52* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 December 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the reflective elements and the diffractive elements of claims 14, 15, 41, and 42 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. **Claims 1- 8, 13, 14, 16, 17, and 20-22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (US 6,392,751) in view of McCullough et al (US 6,628,370).

For **claim 1**, Johnson (Johnson '751 hereinafter) shows phase-measuring microlens microscopy comprising:

directing a measurement beam (column 3, lines 51+) to contact a measurement surface (106) and a reference beam to contact a reference surface (M), wherein the measurement and reference beams are derived from a common source (109);

imaging light (column 3, lines 47+) reflected from the measurement surface onto a multi-element detector (103) through an optical system comprising a microlens array (102); and

imaging light (column 3, lines 65+) reflected from the reference surface (M) onto the multi-element detector to interfere with the light reflected from the measurement surface.

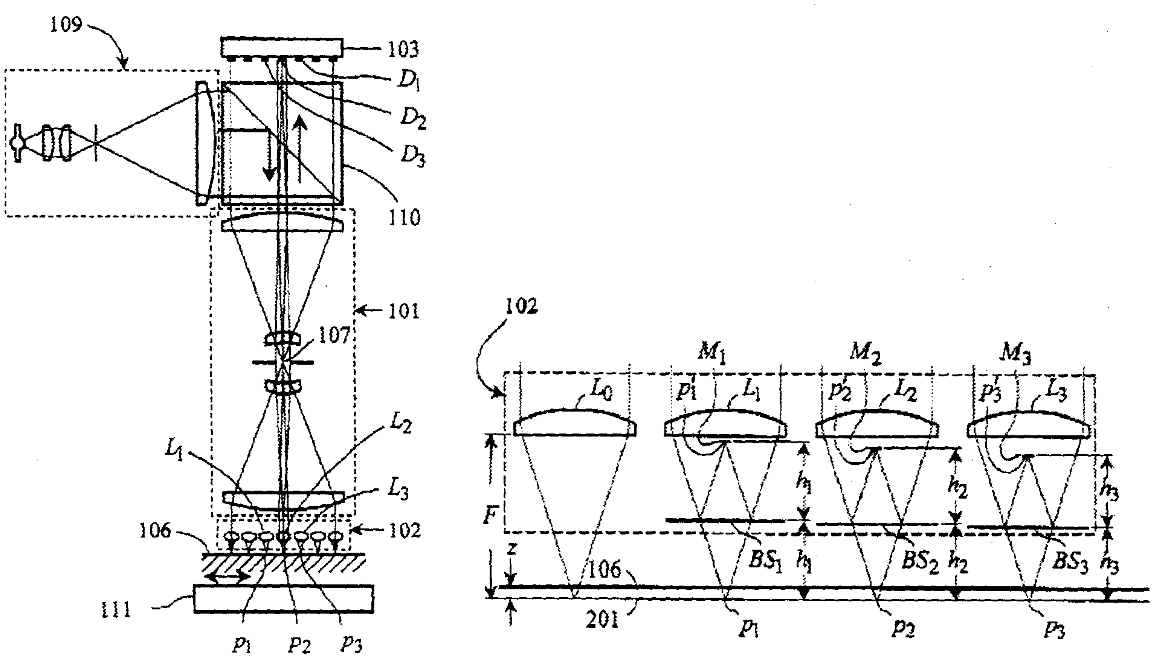

Fig 1

Johnson '752 does not expressly say that the microlens array has an array of lenslets. McCullough et al (McCullough et al hereinafter) shows an illumination system and teaches that a

microlens array comprises an array of lenslets. Therefore, at the time of the invention, one of ordinary skill in the art would have constructed the microlens array to have an array of lenslets in order for each lenslet to refract the light in the desired direction.

As for **claim 2**, the lenslet array (102) is positioned to generate a virtual image of the measurement surface in a virtual image plane (surface of detector 103).

As for **claim 3**, the optical system further comprises a detector imaging system (101, 110) for imaging the virtual image in the virtual image plane onto the detector.

As for **claim 4**, the optical system further comprises an object imaging system (101, 102) for imaging the measurement surface onto an intermediate image plane (at 107) adjacent the lenslet array.

As for **claim 5**, the object imaging system comprises a telecentric relay (101).

As for **claim 6**, Johnson '752 shows combining (column 4, lines 16+) the light reflected from the measurement surface with the light reflected from the reference surface and directing the combined light towards the lenslet array through the object imaging system.

As for **claim 7**, the object imaging system images the reference surface onto the intermediate image plane to overlap with the image of the measurement surface.

As for **claim 8**, the lenslet array is positioned to generate a virtual image of the reference surface in the virtual image plane to overlap with the virtual image of the measurement surface, and wherein the detector imaging system images the overlapping virtual images of the measurement and reference surfaces onto the detector.

As for **claim 13**, the optical system is selected to cause each element of the lenslet array to couple incident light reflected from the measurement object to a different one of the detector elements (column 3, lines 39-42).

As for **claim 14**, the lenslet array comprises an array of refractive elements (L) each having focusing power.

As for **claim 16**, the lenslet array comprises an array of diffractive elements each having focusing power (column 4, lines 5+).

As for **claim 17**, Johnson '752 measures an intensity signal at each of the detector elements (column 3, lines 39+) and determining a surface profile (column 2 lines 53+) of a measurement object based on the measured signals.

As for **claim 20**, Johnson '752 shows directing an input beam from the source into the lenslet array to produce an intermediate beam comprising an array of sub-beams; and separating (BS) the intermediate beam into the measurement and reference beams, wherein the

lenslet array is positioned to cause the measurement beam to contact the measurement surface as an array of focused spots corresponding to the array of sub-beams (column 4, lines 5-20).

As for **claim 21**, the lenslet array is positioned to generate a virtual image of the measurement surface in a virtual image plane (plane at 107), wherein each element of the lenslet array images a region of the measurement object corresponding to a different one of the array of focused spots (column 3, lines 43+).

As for **claim 22**, Johnson '752 does not expressly say that the numerical aperture of the lens system matches an objective numerical aperture of the lens system for illuminating the interferometer to an image numerical aperture of the lens system for imaging the optical interference onto the detector, however, it would be obvious to one of ordinary skill in the art to arrange the apparatus so that the numerical aperture of the lens system matches an objective numerical aperture to an image numerical aperture based on the arrangement of Figure 1, and that Johnson '752 says each microlens is imaged on each detector pixel (column 3, lines 38+) where the projection aperture (107) is conjugate to the microlens focal points (column 4, lines 41+).

5. **Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson '752 and McCullough as applied to claim 1 above, and further in view of Cohen et al (US 5,133,601).

Johnson '752 and McCullough show all the limitations as described above but do not expressly show that the surface of the sample being profiled is diffusely reflective.

Cohen et al show a Mirau interferometer for profiling rough surface.

At the time of the invention, one of ordinary skill in the art would have been motivated to use the combined apparatus of Johnson '752 and McCullough to measure the surface profile of a rough surface which is diffusive since a rough surface is not specular. The artisan would have been motivated to attempt to profile a rough surface in order to have the ability and flexibility to measure various types of surfaces.

6. **Claim 15** is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson '752 and McCullough as applied to claim 1 above, and further in view of Johnson (US 6,133,986).

Johnson '752 and McCullough show all the steps as described above but does not expressly show the lenslet array comprising an array of reflective elements each having a focusing power. Johnson '752 does however suggest the use of other types of optics provided they are "focusing elements" (column 7, lines 29-30).

Johnson, US 6,133,986 (Johnson '986) shows a confocal microscope using micromirrors (71) that have a focusing power .

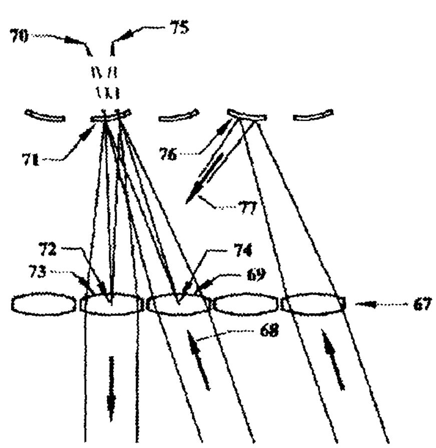

FIG. 22

At the time of the invention, one of ordinary skill in the art would have used micromirrors for focusing each spot since micromirrors meet the requirements that each element must have focusing power and in addition to the advantage that the arrangement of the optical elements can be more flexible.

7. **Claims 18 and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson '752 and McCullough as applied to claims 1 above, and further in view of Harasaki et al (6,493,093).

As for **claim 18**, Johnson '752 and McCullough show all the steps including measuring an intensity signal at each of the detector elements as a function of the optical path length difference (column 1, lines 41+), but does not show the type of light source used and does not expressly show the varying an optical path length difference larger than a coherence length defined by the broadband source.

Harasaki et al show a Mirau interferometer having broadband source and varying an optical path length difference between the measurement and reference surfaces over a range larger than a coherence length defined by the broadband source.

At the time of the invention, one of ordinary skill in the art would have used a broadband light source and varied the optical path length larger than the coherence length in order to obtain good contrast fringes (column 1, lines17+).

As for **claim 19**, Johnson '752 and McCullough show all the steps as described above but does not show that the detector array is a CCD camera.

Harasaki et al shows the use of a CCD camera.

At the time of the invention, one of ordinary skill in the art would have used a CCD camera in order to image the interference of the measurement and reference beam onto each detector element of the detector array (column 5, lines 4+) since a CCD camera has the functional requirement of a multi-element detector.

8. **Claims 24 and 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson '752.

As for **claim 24**, Johnson '752 shows a phase-measuring microlens microscopy comprising the steps of:

providing measurement and reference beams derived from a common source (109);

directing the measurement beam to contact a measurement surface (106) as an array of focused spots and directing the reference beam to contact a reference surface (M);

imaging light reflected from the measurement surface onto a multi-element detector (103); and

imaging light reflected from the reference surface onto the multi-element detector.

Johnson '752 does not expressly say that the light from the reference surface is imaged onto the multi-element detector for the purpose of interfering the reference light with measurement light at the surface of the detector.

Johnson '752 however shows that both the reference and the measurement beams are combined at the beamsplitter and then imaged on the detector, therefore, it would be obvious to one of ordinary skill in the art that the imaging light is reflected from the reference surface onto the multi-element detector to interfere with the light reflected from the measurement surface.

As for **claim 27**, Johnson '752 shows:

imaging the intermediate beam from the lenslet array to a beam splitter (BS) positioned to separate the intermediate beam into the measurement and reference beams.

9. **Claim 25** is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson '752 as applied to claim 24 above, and further in view of Cohen et al (US 5,133,601).

Johnson '752 shows all the limitations as described above but do not expressly show that the surface of the sample being profiled is diffusely reflective.

Cohen et al show a Mirau interferometer for profiling rough surface.

At the time of the invention, one of ordinary skill in the art would have been motivated to use the combined apparatus of Johnson '752 to measure the surface profile of a rough surface which is diffusive since a rough surface is not specular. The artisan would have been motivated to attempt to profile a rough surface in order to have the ability and flexibility to measure various types of surfaces.

10. **Claim 26** is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson '752 as applied to claim 24 above, and further in view of McCullough.

directing an input beam into a microlens array (102) to produce an intermediate beam comprising an array of sub-beams; and

separating (BS) the intermediate beam into the measurement beam and the reference beam, wherein the microlens is positioned to cause the measurement beam to contact the measurement surface (106) as the array of focused spots (p) and wherein each of the focused spots corresponds to a different one of the sub-beams.

Johnson '752 does not expressly say that the microlens array has an array of lenslets. McCullough et al (McCullough et al hereinafter) shows an illumination system and teaches that a microlens array comprises an array of lenslets. Therefore, at the time of the invention, one of ordinary skill in the art would have constructed the microlens array to have an array of lenslets in order for each lenslet to refract the light in the desired direction.

11. **Claims 29-36, 40, 41, 43, 44, and 47-51** are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson '752 and McCullough.

For **claim 29** Johnson '752 shows a phase-measuring microlens microscopy comprising:

a multi-element detector (103); and

an interferometer which during operation directs a measurement beam to contact the measurement surface (106) and a reference beam to contact a reference surface (M), and images light reflected from the measurement surface to overlap on the multi-element detector with light reflected from the reference surface, wherein the measurement and reference beams are derived from a common light source (109) and wherein the interferometer includes an optical system

comprising a microlens array (102) to image the light reflected from the measurement surface onto the detector.

Johnson '752 does not expressly say that the microlens array has an array of lenslets. McCullough shows an illumination system and teaches that a microlens array comprises an array of lenslets. Therefore, at the time of the invention, one of ordinary skill in the art would have constructed the microlens array to have an array of lenslets in order for each lenslet to refract the light in the desired direction.

As for **claim 30**, the lenslet array is positioned to generate a virtual image of the measurement surface in a virtual image plane (107).

As for **claim 31**, the optical system further comprises a detector imaging system (10) for imaging the virtual image in the virtual image plane onto the detector.

As for **claim 32** the optical system further comprises an object imaging system (101, 102) for imaging the measurement surface onto an intermediate image plane (107) adjacent the lenslet array.

As for **claim 33**, the object imaging system comprises a telecentric relay (101).

As for **claim 34**, during operation the system combines the light (column 4, lines 16+) reflected from the measurement surface with the light reflected from the reference surface and directs the combined light towards the lenslet array through the object imaging system.

As for **claim 35**, the object imaging system images the reference surface onto the intermediate image plane to overlap with the image of the measurement surface.

As for **claim 36** the lenslet array is positioned to generate a virtual image of the reference surface in the virtual image plane to overlap with the virtual image of the measurement surface, and wherein the detector imaging system images the overlapping virtual images of the measurement and reference surfaces onto the detector.

As for **claim 40**, the optical system is selected to cause each element of the lenslet array to couple incident light reflected from the measurement object to a different one of the detector elements (column 3, lines 39-42).

As for **claim 41**, the lenslet array comprises an array of refractive elements (L) each having focusing power.

As for **claim 43**, the lenslet array comprises an array of diffractive elements each having focusing power (column 4, lines 5+)..

As for **claim 44**, an analyzer which during operation measures an intensity signal at each of the detector elements (column 3, lines 39+) and determines a surface profile of a measurement object based on the measured signals (column 2 lines 53+).

As for **claim 47**, Johnson '752 and McCullough show the interferometer further comprises a beamsplitter (BS), wherein the lenslet array (102) is positioned to accept an input beam from the light source and produce an intermediate beam comprising an array of sub-beams, wherein the beamsplitter is positioned to separate the intermediate beam into the measurement and reference beams, and wherein the lenslet array is positioned to cause the measurement beam to contact the measurement surface as an array of focused spots corresponding to the array of sub-beams.

As for **claim 48**, Johnson '752 and McCullough show the lenslet array is positioned to generate a virtual image of the measurement surface in a virtual image plane (107), wherein each element (L) of the lenslet array images a region of the measurement object corresponding to a different one of the array of focused spots.

As for **claim 49**, Johnson '752 and McCullough show the interferometer further includes a mount (111) for securing an measurement object defining the measurement surface.

As for **claim 50**, Johnson '752 and McCullough shows a light source (109).

As for **claim 51**, Johnson '752 and McCullough does not expressly show the optical system matches an objective numerical aperture with an image numerical aperture, however, it would be obvious to one of ordinary skill in the art to arrange the apparatus so that the

numerical aperture converter of the lens system matches an objective numerical aperture to an image numerical aperture based on the arrangement of Figure 1, and that Johnson '752 says each microlens is imaged on each detector pixel (column 3, lines 38+) where the projection aperture (107) is conjugate to the microlens focal points (column 4, lines 41+).

12. **Claim 42** is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson '752 and McCullough as applied to claim 29 above, and further in view of Johnson '986.

Johnson '752 and McCullough show all the steps as described above but does not expressly show the lenslet array comprising an array of reflective elements each having a focusing power. Johnson '752 does however suggest the use of other types of optics provided they are "focusing elements" (column 7, lines 29-30).

Johnson, US 6,133,986 (Johnson '986) shows a confocal microscope using micromirrors (71) that have a focusing power .

At the time of the invention, one of ordinary skill in the art would have used micromirrors for focusing each spot since micromirrors meet the requirements that each element must have focusing power and in addition to the advantage that the arrangement of the optical elements can be more flexible.

13. **Claims 45 and 46** are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson '752 and McCullough as applied to claim 29 above, and further in view of Harasaki et al.

Johnson '752 and McCullough combined show:

a light source (109),

scanning an optical path length difference between measurement and reference paths, and

measuring an intensity signal at each of the detector elements as a function of the optical path length difference.

Johnson '752 and McCullough show the function of a "positioning system" and an "analyzer" but do not expressly show the structure for performing the function. Furthermore, Johnson '752 and McCullough do not expressly teach the scanning range (light source coherence length).

As for Johnson '752 not expressly showing a structure for performing the function, since Johnson '752 shows the function, it would be obvious to have some type of structure for performing the function thus meeting the claimed limitation.

As for Johnson '752 not showing the scanning range, Harasaki et al shows a Mirau interferometer varying an optical path length difference between the measurement and reference surfaces over a range larger than a coherence length defined by the light source.

At the time of the invention, one of ordinary skill in the art would have scanned the optical path length difference larger than the coherence length in order to obtain good contrast fringes from a full scan as suggested by Harasaki et al (column 1, lines17+).

As for **claim 46**, Johnson '752 and McCullough do not expressly show that the multi-element detector is a CCD camera. Harasaki shows a CCD camera.

At the time of the invention, one of ordinary skill in the art would have used a CCD camera in order to image the interference of the measurement and reference beam onto each

detector element of the detector array (column 5, lines 4+) since a CCD camera has the functional requirement of the multi-element detector.

14. **Claim 53** is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson '752 in view of McCullough.

Johnson '752 shows an interferometry system for profiling a measurement surface, the system comprising:

a multi-element detector (103); and

an interferometer which during operation directs a measurement beam to contact the measurement surface (106) and a reference beam to contact a reference surface (M), and images light reflected from the measurement surface to overlap on the multi-element detector with light reflected from the reference surface, wherein the measurement and reference beams are derived from a common source (109) and wherein the interferometer includes an optical system comprising a microlens array (102) to direct the measurement beam to contact the measurement surface as an array of focused spots.

Johnson '752 does not expressly say that the microlens array has an array of lenslets. McCullough shows an illumination system and teaches that a microlens array comprises an array of lenslets. Therefore, at the time of the invention, one of ordinary skill in the art would have constructed the microlens array to have an array of lenslets in order for each lenslet to refract the light in the desired direction.

As for **claim 54**, Johnson '752 and McCullough show a beamsplitter (BS), and wherein the lenslet array is positioned to produce an

beams, and the beamsplitter is positioned to separate the intermediate beam into the measurement beam and the reference beam, and the measurement beam contacts the measurement surface as the array of focused spots and wherein each of the focused spots corresponds to a different one of the sub-beams.

As for **claim 55**, Johnson '752 and McCullough show a telecentric relay (101) to image the intermediate beam from the lenslet array to the beamsplitter.

15. **Claims 56 and 57** are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson '752.

Johnson '752 shows an interferometric system comprising:

an interferometer (102) configured to receive a light beam from a light source (109) and generate an optical interference pattern; and

a lens system (101, 102) including a numerical aperture converter, the lens system configured to transmit the light beam from the light source to the interferometer and to receive and image the optical interference pattern onto a detector (103).

Johnson '752 does not expressly say that the numerical aperture converter of the lens system matches an objective numerical aperture of the lens system for illuminating the interferometer to an image numerical aperture of the lens system for imaging the optical interference onto the detector, however, it would be obvious to one of ordinary skill in the art to arrange the apparatus so that the numerical aperture converter of the lens system matches an objective numerical aperture to an image numerical aperture based on the arrangement of Figure 1, and that Johnson '752 says each microlens is imaged on each detector pixel (column 3, lines

38+) where the projection aperture (107) is conjugate to the microlens focal points (column 4, lines 41+).

Allowable Subject Matter

16. **Claims 9-11, 23, 28, 37-39, and 52** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to show or to suggest an interferometric system comprising of the combination of all the elements as presently combined wherein:

a. the detector imaging system is selected to demagnify the virtual image onto the detector; or

b. the magnification of the object imaging system is selected to be greater than the magnification of the detector imaging system; or

c. the optical system is selected to demagnify the light reflected from the measurement object onto the detector; or

d. the magnification of the optical system is less than 1; or

e. the intermediate beam is imaged using a telecentric relay.

Papers related to this application may be submitted to Technology Center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the PTO Fax Center located in CP4-4C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096

OG 30 (November 15, 1989). The CP4 Fax Center numbers are 703-872-9306 for regular communications and for After Final communications

If the Applicant wishes to send a Fax dealing with either a Proposed Amendment or for discussion for a phone interview then the fax should:

a) Contain either the statement "DRAFT" or "PROPOSED AMENDMENT" on the Fax Cover Sheet; and

b) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Hwa Lee whose telephone number is (703) 305-0538. The examiner can normally be reached on M-Th. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on 703-308-4881.

Andrew Lee
Patent Examiner
Art Unit 2877

December 15, 2003/ahl